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Department of Environmental Management

Office of Air Resources

Rhode Island Motor Vehicle Inspection/Maintenance Program

Annual Report - Year 2013
"Data Analysis and Reporting"

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1. Executive Summary

The Rhode Island Motor Vehicle Inspection/Maintenance (I/M) Program was implemented in January of 2000. An annual report to the EPA is required under 40 CFR Part 51 § 51.366 "Data Analysis and Reporting". This report has been developed to comply with that requirement for the period from January 1, 2013 to December 31, 2013.

The report includes details of the I/M Program activities, including inspection data; description of the enforcement methods employed; outline of quality control and quality assurance program mechanisms used, along with a description of significant events.

The Rhode Island I/M program requires a biennial inspection of subject vehicles in a test-and-repair system. The number of Authorized Inspection Repair Stations (AIRS) has remained steady during the duration of the program, ranging from 287-294 stations. At the end of December, 2013, 290 stations were active in the network, throughout the state, including those at the Division of Motor Vehicles (DMV) and the facility run by Systech International (Systech), the Program Manager. Vehicles are tested using one of four methods: on-board diagnostic (OBD) testing including OBD diesel, a transient test (NYTEST with BAR31 trace) or a two-speed idle test. The non-OBD diesel vehicles are tested with a steady-state opacity test.

DMV and the Department of Environmental Management (DEM) are jointly responsible for the administration of the Rhode Island I/M Program. DMV is responsible for the operation of the program and DEM is responsible for the environmental aspects, including the requirement to submit this report. The majority of vehicles tested during 2013 were tested using OBD. Approximately 94% of the fleet was subjected to OBD testing, whereas tailpipe testing has decreased to 6% of the fleet tested.

Significant Events:

- During January 2013, the new 24/7 on-line website re-certification training program was implemented for the program's certified technicians.

- During 2013, Systech and their Information Technology (IT) staff continued to follow through with DEM and DMV to address issues with and improve the computer software on the analyzers at the AIRS.

- During January 2013, the Program Manager finished installing the remote OBD testing units in the RI Verizon Fleet vehicles in order to collect and analyze data for RI's pilot program for Program Effectiveness considerations.

- During January 2013, the Division of the Law Enforcement/Criminal Investigation section of DEM contacted DEM and DMV to inform our agencies that the Rhode Island Attorney General was forming an Environmental Crimes Task Force, and is exploring the possibility of targeting the frequent offenders from the Authorized Inspection Repair Stations (AIRS) that have conducted fraudulent inspections.

- During May 2013, Systech International announced they were planning on changing their name to Opus Inspection. The name change will take effect January 2014.

- During May 2013, DEM and DMV met to discus the current I/M Program contract that is scheduled to expire in December 2014. The State has the option for two one year extensions through 12/31/2016.

- During June thru September 2013, roadside checks were conducted by the DMV and Local Police to promote compliance with the I/M Program.

- During July, the Program Manager from Systech International informed DEM and DMV that Systech was planning on appointing a new Program Manager to oversee the Rhode Island Emissions Program, because the present program manager was being transferred to oversee the New York I/M Program.

- During September 2013, a parking lot survey was performed to gauge compliance with Rhode Island vehicle registrations and inspection requirements.

- During December 2013, Systech assigned Bruce Tassone as the new Program Manager to oversee Systech's performance of the I/M Program under the contract with the State.

2. Significant Events

Website Re-Certification Training for Technicians

During January 2013, the new 24/7 on-line website re-certification training program was implemented for the program's certified technicians. This new training program has allowed the technicians to complete their two year re-certification training on their two year anniversary of their last test, instead of the technicians having to wait for the Program Manager to schedule the bi-annually scheduled exam.

The re-certification training was completed in April 2013.

Systech International Continues to Upgrade and Improve the Analyzers' Computer Software at the AIRS

Throughout the year, Systech and their information Technology (IT) staff continued to work with DMV and DEM to improve the computer software on the analyzers at the AIRS. During 2013, there were two upgraded software versions loaded on the analyzers at the AIRS. (Versions 13.01.01 and 13.05.01).

Systech submitted results of the acceptance testing for each version of the software to DMV for approval. When the acceptance testing was approved by DMV, Systech proceeded to load it into the analyzers at the five beta testing AIRS to assure the quality and accuracy of the emissions tests before loading it on the analyzers at the remaining AIRS. The beta testing AIRS tested the software for two weeks. Once the AIRS had successfully tested the upgraded software versions and DMV approved the testing, Systech proceeded to load the software on the analyzers at the remaining AIRS.

Remote OBD Testing Pilot Program Results

During January 2013, the Program manager completed the installation of 74 remote OBD testing units in the RI Verizon Fleet to begin to collect and analyze data for RI's pilot program for Program Effectiveness considerations. The training and certification of the Verizon Inspectors were completed by the end of January.

The system is designed to notify the fleet operator whenever a diagnostic trouble code is stored in the onboard computer, even if that does not trigger a "MIL On" situation. As a result, the maintenance crew gets early notification that an emission related problem that may be developing on a vehicle and can correct it before it blossoms into a full blown issue.

The following table indicates the results of the remote OBD Testing Pilot Program from January 1, 2013 thru December 31, 2013.

Table I: Remote OBD Testing Pilot Program Results

Total on Road Tests	Vehicles Identified with Problems mostly before "Mil Illuminated"	Total "Mil Commanded On" Events	"Mil Commanded On" Events With Coolant Thermostat Problems	"Mil Commanded On" Events with Evaporative Systems Problems	"Mil Commanded On" Events with Camshaft Position Circuit Problem
15,415	28	14	8	2	1

During 2013, there were 15,415 on road tests conducted using Remote OBD.

There were 28 vehicles identified with problems mostly before the "MIL" illuminated. The coolant thermostat problem identified last year continues to be an issue on some of these vehicles. Nine vehicles had the "MIL" commanded on and in eight of these cases the thermostat was the problem. Two vehicles also reported a problem with the evaporative system (loose gas cap) and one vehicle had a bad camshaft position circuit.

There were a total of 14 "MIL" On events among the nine vehicles that experienced problems in 2013. On average vehicles were repaired in less than two weeks after a "MIL On" event. Removing one vehicle that took a long time to repair, the average for the rest of the "MIL On" events to be repaired was six days. The median time to repair was less than three days, and this does not take into consideration repairs that were made in advance of the "MIL coming On". The fleet operator investigates whenever trouble codes appear and takes repair action as needed to address any emerging problems.

One of the major advantages of Remote OBD is it encourages quicker repairs than required by a periodic I/M program.

The Remote OBD program in Rhode Island is yielding significant air quality benefits compared to the standard period test program. Vehicles that experience "MIL On" events are repaired essentially immediately and vehicles experiencing problems are being diagnosed ahead of the problem reaching the "MIL On" stage. This means vehicles are being operated on the roads in a cleaner state than normal.

In 2014-2015, Opus Inspection proposes to further expand the Remote OBD program in Rhode Island to additional fleet vehicles and possibly some private vehicles. (See Appendix "A" for Remote OBD Testing Pilot Program Results)

RI DEM/Criminal Investigations Explores Possibility of Targeting AIRS for Fraudulent Inspections Conducted

During January 2013, the Division of the Law Enforcement/Criminal Investigation section of DEM contacted DEM and DMV to inform our agencies that the Rhode Island Attorney General was forming an Environmental Crimes Task Force, and is exploring the possibility of targeting the frequent offenders from the Authorized Inspection Repair Stations (AIRS) that have conducted fraudulent inspections. As of the end of December 2013, there have not been any formal hearings.

Systech International, Inc., Changing Company Name

During May 2013, Systech International announced they were planning on changing their name to Opus Inspection. The name change will take effect January 2014.

DEM and DMV Began Discussions Regarding the I/M Current Contract

During May 2013, DEM and DMV met to discus the current I/M Program contract that is scheduled to expire on December 31, 2014. The State has the option for two one year extensions through 12/31/2016, upon written notice to Systech not less than ninety (90) days prior to the expiration of the initial term or any renewal period.

Roadside Checks Conducted by DMV and Local Police

During June thru September 2013, there were 4 roadside checks conducted throughout the state by the DMV and Local Police, to enforce motorist compliance with the I/M Program. The DMV and Local Police issued a total of 241 "five-day notice and demand tags" to vehicles found to be out of compliance.

Systech Announces Plans to Replace Program Manager for I/M Program

During September 2013, the Program Manager from Systech International informed DEM and DMV that Systech was planning on appointing a new Program Manager to oversee the Rhode Island Emissions Program because the present program manager was being transferred to oversee the New York I/M Program.

Parking Lot Survey

During September 2013, the DMV performed three parking lot surveys at the Community College of Rhode Island (CCRI) located at three different regions in the state. There were 660 vehicles with Rhode Island registrations surveyed to find the proportion of valid to invalid or missing stickers.

Systech Appoints New I/M Program Manager

During December 2013, Systech International assigned Bruce Tassone as the new Program Manager to oversee Systech's performance of the I/M Program under the contract with the State.

3. Annual Test Data Report

This section reports vehicle inspection data for the period of January 1, 2013 to December 31, 2013. Vehicles subject to the inspection requirement include all light-duty vehicles, 25 years old and newer, up to 8,500 pounds GVWR. Vehicles over 25 years of age are required to undergo inspection but the results relating to emissions are advisory and compliance with the standards is voluntary. New vehicles, less than two years old that have not exceeded 24,000 miles, are exempt from emission testing.

The data for this report was submitted by the Program Manager for all the inspection tests performed during 2013. The data was then filtered using a process to eliminate inspection results related to the State's safety inspection program which is performed concurrently with the emissions program. (see Appendix "B" for Systech Reporting Services/RI EPA Reports Data)

Initial Test Results

The following table provides a breakdown of initial inspections by test type.

Table II: Initial Test Results

Tests	Total	Pass	Fail	% Fail
Initial OBD Tests	317,144	301,216	15,928	5.02%
Initial Transient Tests	12,830	11,935	895	6.98%
Initial Two Speed Idle Tests	7,722	5,765	1,957	25.34%
Initial OBD Diesel	1,262	1,240	22	1.74%
Initial Diesel Opacity	149	145	4	2.68%
Total Initial Tests	339,107	320,301	18,806	5.55%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

There were 290 AIRS that participated in the I/M Program during 2013. There were 339,107 vehicles tested in 2013. The number of vehicles that failed the initial test was 18,806. This result is an overall initial failure rate of 6%.

Table III: Initial Transient Failure Rate

Program Year	Initial Transient Tests	Initial Transient Failures	% Fail
2000	241,993	15,877	6.56%
2001	314,717	18,524	5.89%
2002	274,456	30,062	10.95%
2003	184,187	24,279	13.18%
2004	116,944	15,924	13.62%
2005	104,041	15,877	15.26%
2006	80,053	10,423	13.02%
2007	63,501	7,451	11.73%
2008	47,941	5,543	11.56%
2009	36,561	3,369	9.21%
2010	29,402	2,696	9.17%
2011	20,543	1,426	6.94%
2012	20,988	1,499	7.14%
2013	12,830	895	6.98%

As the above table indicates, during 2000 and 2001, the transient failure rate was consistent with the anticipated failure rate of 6% projected in the State Implementation Plan (SIP), due to the use of the phase in cut point standards for tailpipe emissions. Beginning in 2002 the anticipated failure rate was projected to be 15-18%. The failure rate has been lower than anticipated since 2002, except during 2005.

Retest Test Results

Table IV: First Retest Results by Test Type

	Total	Pass	Fail	% Fail
OBD First Retests	13,431	12,295	1,136	8.46%
Transient First Retests	775	625	150	19.35%
Two Speed Idle First Retests	710	626	84	11.83%
OBD Diesel First Retests	20	19	1	5.00%
Diesel Opacity First Retests	4	3	1	25.00%
Total First Retests	14,940	13,568	1,372	9.18%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table V: Subsequent Retest Results by Test Type

	Total	Pass	Fail	% Fail
OBD Subsequent Retests	1,024	850	174	16.99%
Transient Subsequent Retests	172	136	36	20.93%
Two Speed Idle Subsequent Retests	100	91	9	9.00%
OBD Diesel Subsequent Retests	1	1	0	0.00%
Diesel Opacity Subsequent Retests	1	1	0	0.00%
Total Subsequent Retests	1,298	1,079	219	16.87%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

First Retest Failure Rates of Transient Tests

Table VI: First Retest Failure Rates of Transient Tests

Program Year	1st Retest Vehicles	Fail	% Fail
2000	28,892	7,982	28%
2001	21,521	3,970	18%
2002	26,234	5,814	22%
2003	24,207	4,431	18%
2004	16,628	2,668	16%
2005	17,397	2,736	16%
2006	12,038	1,830	15%

Program Year	1st Retest Vehicles	Fail	% Fail
2007	8,804	1,295	15%
2008	5,026	760	15%
2009	3,026	630	21%
2010	2,320	522	23%
2011	1,217	243	20%
2012	2,320	522	23%
2013	775	150	19%

The above table indicates that the failure rate declined after the first year of the program and, except for 2002, continued to decline through 2004. During 2005 it remained the same as 2004 and declined again during 2006 and remained the same thru 2008. During 2009 thru 2013, the failure rate remained high; probably due to the fact these vehicles are the oldest vehicles on the road, making them more difficult to repair.

Transient Tests

The following tables provide a breakdown of the transient test results.

Table VII: Transient Initial Test Results

Transient Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	9,724	9,050	674	6.93%
Trucks	3,106	2,885	221	7.12%
Total Transient Initial Tests	12,830	11,935	895	6.98%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table VIII: Transient First Retest Test Results

Transient Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	572	463	109	19.06%
Trucks	203	162	41	20.20%
Total Transient First Retests	775	625	150	19.35%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table IX: Transient Subsequent Test Results

Transient Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	123	93	30	24.39%
Trucks	49	43	6	12.24%
Total Transient Subsequent Tests	172	136	36	20.93%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Two Speed Idle Tests

The following tables provide a breakdown of the two speed idle test results.

Table X: Two Speed Idle Initial Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	5,726	4,264	1,462	25.53%
Trucks	1,996	1,501	495	24.80%
Total Two Speed Initial Tests	7,722	5,765	1,957	25.34%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XI: Two Speed Idle First Retest Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	438	384	54	12.33%
Trucks	272	242	30	11.03%
Total Two Speed First Retests	710	626	84	11.83%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XII: Two Speed Idle Subsequent Test Results

Two Speed Idle Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	70	65	5	7.14%
Trucks	30	26	4	13.33%
Total Two Speed Subsequent Tests	100	91	9	9.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

On-Board Diagnostics Testing

An on-board diagnostic system test is an inquiry of the vehicle's on-board computer. An OBD test is considered a failure when:

- Current Diagnostic Trouble Codes are indicated and the Malfunction Indicator Light (MIL) is commanded on or,
- MY 2001 and newer vehicles, more than one monitor in a vehicle's on board computer is not set as ready; or,
- MY 1996-2000 vehicles, more than two monitors in a vehicle's on-board computer are not set as ready.

If the vehicle's OBD system is not communicating with the RI2007 analyzer, the vehicle shall undergo the appropriate exhaust emissions test.

The following table provides a breakdown of the initial OBD tests.

Table XIII: OBD Initial Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	224,165	213,411	10,754	4.80%	219,896	3,942	1.76%	217,041	6,797	3.03%
Trucks	92,979	87,805	5,174	5.56%	90,971	1,872	2.01%	89,507	3,336	3.59%
Total	317,144	301,216	15,928	5.02%	310,867	5,814	1.83%	306,548	10,133	3.20%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XIV: OBD First Retest Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	8,965	8,172	793	8.85%	8,718	227	2.53%	8,378	567	6.32%
Trucks	4,466	4,123	343	7.68%	4,364	93	2.08%	4,211	246	5.51%
Total	13,431	12,295	1,136	8.46%	13,082	320	2.38%	12,589	813	6.05%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XV: OBD Subsequent Retest Test Results

Tests	OBD Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Passenger Vehicles	723	595	128	17.70%	686	33	4.56%	621	98	13.55%
Trucks	301	255	46	15.28%	278	21	6.98%	274	25	8.31%
Total	1,024	850	174	16.99%	964	54	5.27%	895	123	12.01%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

The following table provides a comparison of the (Non-Diesel) OBD Tests.

Table XVI: OBD (Non Diesel) Comparison Chart

Tests	Total Tests	OBD Pass	OBD Fail	OBD Fail %	MIL Pass	MIL Fail	MIL Fail %	Monitor Ready Pass	Monitor Ready Fail	Monitor Ready Fail %
Initial Test										
Passenger	224,165	213,411	10,754	4.80%	219,896	3,942	1.76%	217,041	6,797	3.03%
Truck	92,979	87,805	5,174	5.56%	90,971	1,872	2.01%	89,507	3,336	3.59%
Total	**317,144**	**301,216**	**15,928**	**5.02%**	**310,867**	**5,814**	**1.83%**	**306,548**	**10,133**	**3.20%**
First Retest										
Passenger	8,965	8,172	793	8.85%	8,718	227	2.53%	8,378	567	6.32%
Truck	4,466	4,123	343	7.68%	4,364	93	2.08%	4,211	246	5.51%
Total	**13,431**	**12,295**	**1,136**	**8.46%**	**13,082**	**320**	**2.38%**	**12,589**	**813**	**6.05%**
Subsequent Test										
Passenger	723	595	128	17.70%	686	33	4.56%	621	98	13.55%
Truck	301	255	46	15.28%	278	21	6.98%	274	25	8.31%
Total	**1,024**	**850**	**174**	**16.99%**	**964**	**54**	**5.27%**	**895**	**123**	**12.01%**

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

A total of 317,144 OBD non-diesel vehicle tests were initially conducted using OBD in 2013. This represents 94% of all initial vehicle tests. The overall failure rate was 5.02%. The OBD MIL produced a 1.83% failure rate and monitor readiness accounted for a 3.20% failure rate.

As the above chart indicates there were 13,431 OBD non-diesel vehicle re-tests with an overall failure rate of 8.46%. There were 1,024 OBD non-diesel vehicle test failures in subsequent tests, an overall failure rate of 16.99%.

Diesel OBD Testing

The following tables provide a breakdown of initial diesel OBD tests on passenger vehicles and trucks.

Table XVII: Diesel OBD Initial Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	1,182	1,161	21	1.78%	1,164	13	1.10%	1,177	0	0.00%
Trucks	80	79	1	1.25%	79	0	0.00%	79	0	0.00%
Total	1,262	1,240	22	1.74%	1,243	13	1.03%	1,256	0	0.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XVIII: Diesel OBD First Retest Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	19	18	1	5.26%	18	1	5.26%	19	0	0.00%
Trucks	1	1	0	0.00%	1	0	0.00%	1	0	0.00%
Total	20	19	1	5.26%	19	1	5.00%	20	0	0.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XIX: Diesel OBD Subsequent Retest Test Results

Tests	OBD Diesel Total Tests	OBD Diesel Pass	OBD Diesel Fail	OBD Diesel Fail %	OBD Diesel MIL Pass	OBD Diesel MIL Fail	OBD Diesel MIL Fail %	OBD Diesel Monitor Ready Pass	OBD Diesel Monitor Ready Fail	OBD Diesel Monitor Ready Fail %
Passenger Vehicles	1	1	0	0.00%	1	0	0.00%	1	0	0.00%
Total	1	1	0	0.00%	1	0	0.00%	1	0	0.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Diesel Opacity Testing

The following tables provide a breakdown of initial diesel opacity tests or passenger vehicles and trucks.

Table XX: Diesel Opacity Initial Test Results

Diesel Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	123	120	3	2.44%
Trucks	26	25	1	3.85%
Total Initial Diesel Opacity Tests	149	145	4	2.68%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XXI: Diesel Opacity First Retest Results

Diesel Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	2	2	0	0.00%
Trucks	2	1	1	50.00%
Total First Retests Diesel Opacity Tests	4	3	1	25.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

Table XXII: Diesel Opacity Subsequent Retest Results

Diesel Tests	Total	Pass	Fail	% Fail
Trucks	1	1	0	0.00%
Total Subsequent Diesel Opacity Tests	1	1	0	0.00%

(see Appendix "C" for detailed test volume by test type, model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

A diesel opacity test is performed on non-OBD diesel vehicles. A failure occurs when opacity is greater than 20%.

OBD MIL Codes

Table XXIII: OBD MIL Codes

OBD Tests	MIL Commanded On **No** Codes Stored (Fail)	MIL Not Commanded On Codes Stored (Fail)	MIL Commanded On Codes Stored (Fail)	MIL Not Commanded On **No** Codes Stored (Pass)
Passenger Vehicles	0	13,685	3,942	206,102
Trucks	0	6,170	1,872	84,751
Total	0	19,855	5,814	290,853

(see Appendix "E" for detailed initial results for OBD MIL codes by model year and vehicle type and Appendix "D" for detailed initial test volume by AIRS, model year and vehicle type)

As the above table indicates there were no OBD vehicles tested that exhibited the "MIL Commanded On" that did not have a code stored. All these vehicles tested had codes stored when the MIL was commanded on. There were 19,855 vehicles tested with the "MIL not Commanded On" and codes were stored. There were 5,814 vehicles tested with the "MIL Commanded On" and the codes were stored. There were 290,853 vehicles that were tested with the "MIL not Commanded On", and no codes were stored, which resulted in the vehicle passing the test.

Gas Cap Test

The gas cap test is conducted on all non-OBD vehicles (model year 1995 and older). The following table indicates the results of the gas cap results.

Table XXIV: Initial Fuel Cap Results

Fuel Cap Tests	Total	Pass	Fail	% Fail
Passenger Vehicles	14,260	14,139	121	1%
Trucks	5,063	5,012	51	1%
Total Initial Tests	19,323	19,151	172	1%

(see Appendix "F" for detailed fuel cap results by model year and vehicle type and Appendix "D" for detailed initial test volume by model year and AIRS)

Vehicles with No Know Final Outcome

Table XXV: Vehicles with No Known Final Outcome

Initial Failure Results	Passenger Vehicles	Truck Vehicles	Total Initial Failures
Tests			
OBD Initial Failure	10,754	5,174	15,928
Transient Initial Failure	674	221	895
Two Speed Idle Initial Failure	1,462	495	1,957
Diesel OBD Initial Failure	21	1	22
Diesel Opacity Initial Failure	3	1	4
Total Initial Failures			**18,806**
Retest Pass Results			**Total Retest Pass Results**
OBD First Pass Retests	8,172	4,123	12,295
Transient First Pass Retests	463	162	625
Two Speed Idle First Pass Retests	384	242	626
Diesel OBD First Pass Retests	18	1	19
Diesel Opacity First Pass Retests	2	1	3
Total First Retest Pass			**13,568**

Subsequent Pass Results			Total Subsequent Pass Results
OBD Subsequent Pass Retests	595	255	850
Transient Subsequent Pass Retests	93	43	136
Two Speed Idle Subsequent Pass Retests	65	26	91
Diesel OBD Subsequent Pass Retests	1	0	1
Diesel Opacity Subsequent Pass Retests	0	1	1
Total Subsequent Retest			**1,079**
Totals			
Total Initial Failures	18,806		
First Retest Pass	-13,568		
Subsequent Retest Pass	- 1,079		
TSI Test to Transient Test	-3		
Failed Vehicles/Exempt Sticker Issued	-1,523		
Total	2,633		
Vehicles Failed in 2013 and re-tested in Jan., Feb., March 2014 (OBD) 300 Vehicles	- 457		
Waivers Issued by DMV during 2013 (OBD) Vehicles	- 83		
Total Vehicles with No Known Final Outcome	2,093		
OBD Vehicles with No Know Outcome	2,458		
2013 OBD Waivers Issued by DMV	- 83		
Vehicles Failed in 2013 and re-tested in Jan., Feb., March 2014 (OBD) Vehicles	- 430		
Percentage of Total OBD Vehicles with No Known Final Outcome	1,945 (74%)		

(see Appendix "G" for summary of vehicles with no known final outcome with model year, test type, vehicle type and vehicle Identification number (VIN) list of unknown vehicle outcome and VIN list of unknown vehicle outcome with 3 months lookup table)

As the above table indicates, there were a total of 18,806 initial vehicle test failures during 2013. There were 13,568 tests where the vehicle passed the first retest and a total of 1,079 vehicle tests that passed the subsequent test.

There were 3 vehicles that received a pass result outside of their initial failing test set. When the initial test was performed it received a TSI test and failed the inspection. It was retested with a transient test.

There were a total of 1,523 model year vehicles (25 years old and older) that were required to undergo an emissions test, however, because these vehicles failed emissions, the motorist is exempt from the requirement to obtain repairs on these vehicles in order to comply with standard. The motorist was issued an inspection sticker even though the vehicle failed the emissions test.

The protocol in the RI I/M program, any model year vehicle 25 years old and older, are required to undergo an emissions test, however, the motorist is exempt from obtaining repairs for the vehicle, in order to comply with the standard.

This leaves a balance of 2,633 vehicles with no known final outcome.

During 2013, there were 457 vehicles that failed during 2013, however, they were retested in January, February and March 2014.

During 2013, there were 83 waivers issued by DMV.

This leaves an overall balance of 2,093 vehicles with no known final outcome.

These 2,093 vehicles may represent vehicles:

- Inspected during 2013, failed and still are not returned for an inspection before April 1, 2014
- have been moved out of Rhode Island, or
- have been scrapped, or are illegally operating with expired inspections

The total percentage of the overall balance of vehicles with no known final outcome is 11%.

During 2013, there were a total of 2,458 OBD vehicles with no known outcome. There were a total of 430 OBD vehicles that failed the inspection during 2013, however, they were retested during January, February and March (2014). (see Appendix "G" for OBD vehicles with no known outcome)

There were a total of 83 OBD waivers issued by DMV during 2013.

This leaves an overall balance of 1,945 OBD vehicles with no known final outcome. This results in 74% of the OBD vehicles with no known final outcome.

4. Waivers

In Rhode Island, three different types of waivers are available if a vehicle fails the emissions test and a retest. The waiver types are:

- A diagnostic waiver applies to vehicle owners whose vehicles have all emission control devices in place and operating and no additional repairs are reasonably possible or because they are unable to get their vehicle repaired because the necessary emission parts are no longer available or no longer manufactured.

- A repair cost limit waiver is available for vehicle owners if the vehicle failed the emission test and the owner has spent a minimum of $700 on emission-related parts and/or labor (labor must be performed by a CIRT to qualify) and the vehicle still does not pass.

- A repair time delay waiver is available for vehicle owners who can prove financial hardship.

During 2013, there were a total of 83 waivers issued: 35 repair cost waivers, 44 repair time-delay waivers and 4 diagnostic waivers were issued. Of the 83 waivers issued, there was one repair time-delay waiver issued in January 2013, due to the results of the vehicle failing its initial test during the previous calendar year (2012) and completing the retest in the following year (2013). The remaining 82 waivers were issued to vehicles that failed the inspection during 2013. The overall 2013 waiver rate is 0.44%. (see Appendix "H" for Waivers)

Table XXVI: Waivers - Year by Year Comparison

Year	Number of Failed Vehicles	Waivers Granted	Waiver Rate
2000	36,090	1,568	4.30%
2001	21,223	440	2.07%
2002	31,473	219	0.70%
2003	32,152	221	0.69%
2004	28,126	126	0.45%
2005	28,585	151	0.53%
2006	21,923	96	0.44%
2007	18,174	70	0.39%
2008	17,814	53	0.30%
2009	27,241	149	0.55%
2010	24,458	125	0.51%
2011	21,009	137	0.65%
2012	20,000	91	0.46%
2013	18,806	83	0.44%

As the above table indicates in 2000, the first year of the I/M program, the waiver rate was slightly above the 3% estimated in the I/M SIP. Since 2001 the waiver rate has remained below 3%, potentially due to the continued training seminars and OBD training, resulting in improved repair effectiveness. Additionally, DMV continues to follow the strict guidelines defined in Rhode Island Motor Vehicle Safety and Emissions Control Regulation No.1, section 1.9.1 Waiver Requirements and Conditions.

5. Average Emission Reductions (Vehicles Subjected to Transient Testing)

Table XXVII:

Average Emissions Reductions after Repairs in 2013 (grams per mile)

	HC	CO	NO_x
Initial Test	5.17	55.89	3.09
Average Emissions After Repairs	0.65	5.33	0.93
Difference	4.52	50.56	2.16
Average Percent Reduction	87.43%	90.46%	69.90%

(see Appendix "I" for average emission reductions after repairs by model year and vehicle type)

The average emissions reduction after repairs is reported as an indicator of the effectiveness of the non-OBD portion of the I/M program. These results indicate that the main objective of the program, to find high emitters and have them repaired, is being fulfilled.

Table XXVIII:

Yearly Comparison HC, CO and NO_x Average Emissions Reductions after Repairs

Year	Average HC Reductions	Average CO Reductions	Average NO_x Reductions
2000	68.50%	81.10%	38.50%
2001	70.42%	82.03%	49.32%
2002	70.11%	81.56%	62.59%
2003	72.50%	82.84%	63.20%
2004	72.24%	82.87%	62.04%
2005	72.40%	82.34%	61.19%
2006	72.69%	82.36%	63.13%
2007	75.27%	80.76%	64.83%

2008	73.66%	83.71%	66.34%
2009	90.63%	84.69%	90.41%
2010	88.13%	89.93%	85.87%
2011	79.21%	85.41%	61.97%
2012	88.39%	88.60%	62.54%
2013	87.43%	90.46%	69.90%

The data in Table XXVII indicate that the average emissions reductions after repairs for HC and CO have continued to remain high since the I/M Program was implemented during 2000 and the NO_x reduction has continued to remain high from 2002. The emission reductions are the results of the repairs on the vehicles that have failed. The lower reductions in 2000 and 2001 for NOx indicate that the repair industry was not familiar with repairs for high emissions for the first two years of the I/M Program.

6. Training

Rhode Island has two levels of technician training in the I/M Program. The first level is the Certified Inspection Technician (CIT). The second level is the Certified Inspection Repair Technician (CIRT).

There are two steps a technician must complete in order to become a CIT. The first step is to complete the training provided by DMV for the safety inspection portion of the I/M Program. The second step required is a four hour course provided by the Program Manager, training the CIT for the emissions inspection portion of the I/M Program. They are required to pass an exam before being certified. CITs are certified only to perform vehicle safety and emission inspections.

The CITs certification is valid for two years. The new 24/7 on-line website re-certification program began in January 2013. By the end of April 2013, there were 861 technicians re-certified. At the end of December 2013, there were a total of 1,158 CITs re-certified.

This new re-certification program allows the technicians to complete their two year re-certification training on their two year anniversary of their last test, instead of the technicians having to wait for the Program Manager to schedule the bi-annually scheduled exam.

CIRTs perform both inspections and repairs for motor vehicle safety and emissions issues. Only CIRTs can perform repairs whose costs qualify for the repair cost waiver. CIRTs are required to first obtain their CIT certification, then pass the RI CIRT written exam or possess an Automotive Service Excellence (ASE) Level 1 Advanced Engine Performance license. If a CIRT does not have their ASE L1 license, they have two years to obtain it to continue certification.

At the end of December 2013, there were a total of 1,214 active technicians in the network, including CITs and CIRTs.

This continued technician training and certification program, conducted over the years, has helped to improve and sustain repair effectiveness as noted by the high level of emissions reductions after repairs as listed in Table XXVII.

7. Quality Assurance

Inspection Network Participation

At the end of December 2013, 290 inspection stations, representing 290 lanes were in the inspection network throughout the state. The number of Authorized Inspection Repair Stations has remained steady during the duration of the program ranging from 287-294. The continued level of participation is an indicator of the good health of Rhode Island's I/M program.

Audit Types

Auditing continues to provide a direct oversight of the testing process and ensures that accurate quality inspections are being conducted by (AIRS). Overt, covert and computer auditing are employed in the Rhode Island Emissions & Safety Inspection Program. Auditing is conducted by DMV and the Program Manager.

The Program Manger performs: overt visual audits, covert visual audits, covert vehicle audits, gas bench audits, vehicle mass analysis system (VMAS) audits, zero air generator (ZAG) maintenance and covert digital audits including OBD fraud digital auditing with VIN mismatches, OBD readiness monitor mismatches and all OBD parameters. The results of these audits and any irregularities discovered are noted and reported to DMV and DEM via e-mail notifications.

Overt Visual Audits

The overt visual audits consist of checking the reliability of the testing equipment, observation of an inspection, the legibility of the stickers and missing and or voided stickers. The voided stickers are picked up and stored in a secure location with the Program Manager. If there are stickers missing, the AIRS are required to fill out a police report and submit it to DMV and DMV personnel will follow up on the report.

Covert Visual Audits

The covert visual audits consist of observing a vehicle inspection while unseen and from a distance.

Covert Vehicle Audits

The covert vehicle audits during 2013, involved two undercover auditors and one covert vehicle (1997) Chevrolet S10 truck that was purchased by Systech International, the Program Manager.

The DMV and the Program Manager rigged the covert vehicle to fail emissions and safety inspections. The emissions failures were set to fail an on-board diagnostics (OBD) emissions test by electronically disabling the: Exhaust Gas Recirculation (EGR) valve, the Pre-Catalyst (O_2) oxygen sensor, the Evaporative Emissions (EVAP) vent solenoid EGR valve and the Malfunction Illumination Light (MIL).

The safety failures were set to fail by removing the left front head lamp and disabling the antilock braking system (ABS), the parking/emergency brake and the airbag light.

A baseline inspection was conducted by the DMV prior to the covert vehicle audit and compared to the results of the station inspection and a post inspection confirmation audit.

Covert OBD Digital Auditing

The OBD covert digital auditing consists of an analysis of inspection data to uncover any irregularities and unusual testing patterns, including OBD VIN mismatches, OBD readiness monitor mismatches, and all OBD parameters. These inspection tests are scanned daily for any inconsistencies in the data. If any inconsistencies are found, a trigger is set resulting in an e-mail notification to the DEM and DMV for enforcement consideration.

Audit Activity

Overt Audits

The Division of Motor Vehicle and the Program Manager conducts overt visual audits to assure adherence to program procedures and regulations. The audit is a visual performance audit that consists of an observation of test procedures, observation of an inspection, inspection of the workplace, a check of AIRS signage and certificate posting and an examination of testing records**.** (see Appendix "J" for Audit Types)

A total of approximately 2,817 overt audits were conducted by DMV and the Program Manager during 2013. DMV conducted approximately 1,614 overt audits and the Program Manager conducted 1,203.

Covert Audits

The Program Manager was required to complete one covert visual audit per year for each station (290) and 50 covert vehicle audits annually.

During 2013, the Program Manager performed (289) covert visual audits during 2013. One AIRS did not receive a covert visual audit because the AIRS was closed during the last quarter of the year. There were a total of forty covert vehicle audits that were completed during November and December. The remaining ten covert vehicle audits were completed during January 2014. The results for the ten carry-over covert vehicle audits will be included in the 2014 Annual Report.

OBD Digital Auditing

During 2013, the Program Manager performed 462 automated digital audits by scanning the VID (Vehicle Information Database) for any mismatches for OBD VIN (Vehicle Identification Number), OBD readiness monitor mismatches and all OBD parameters. These inspection tests are scanned daily for any inconsistencies in the data. If any inconsistencies are found, a trigger is set resulting in an e-mail notification to the DEM and DMV for enforcement consideration.

This enforcement on the I/M Program has proved to be beneficial as a result of the OBD Digital Auditing.

Gas Bench Audits

During 2013, the Program Manager performed 290 on-site gas bench audits, and one on-site gas bench audit at the DMV facility bringing the total to 291 on-site gas bench audits on each analyzer at the AIRS to ensure the integrity and functionality of the gas benches in the equipment. Each facility received a five point (zero, low, mid low, mid high and high) gas bench audit. These audits ensure the integrity and the functionality of the gas benches used during non-OBD inspections. The failure rate was 4.8%. Failed units were repaired to proper operating conditions.

Vehicle Mass Analysis System (VMAS) Audits

The workstation analyzer and VMAS together provide mass emission measurement capability during non-OBD inspections. The analyzer measures HC, CO, O_2 and NO_x concentrations by drawing samples from inside the vehicle tailpipe and conducting chemical analyses of the samples.

During 2013, the Program Manager performed 290 VMAS maintenance audits at the AIRS. The VMAS tubes were audited and if the equipment needed calibration or replacement, a service call for on-site maintenance was placed. These audits assure the integrity of the non-OBD emissions test.

Zero Air Generator (ZAG) Maintenance

During 2013, the Program Manager continued to follow the manufacturer recommendation for the maintenance on the ZAGs at all 290 AIRS, which included the NO_x scrubber, catalytic cylinder, pre-filter element, and the high grade inline particulate filter. This maintenance is performed per manufacture recommendation to ensure the integrity and the functionality of the ZAG to produce "zero air" (for use in equipment calibration for non-OBD inspections).

Audit Results

Verbal warnings are issued for each incident of violation. Formal hearings require an escalation of severity of infractions and documented evidence. During 2013, there were a total of seventy-six hearings scheduled, however, there were a total of forty-two cases that were postponed; seventeen formal hearings were conducted for the Authorized Inspection and Repair Station (AIRS), seventeen formal hearings were conducted for the Certified Inspection Technicians (CITs) as a result of the covert OBD fraud digital auditing.

The results of the hearings are as follows:

Table XXIX: Enforcement Statistics

2013	Total Hearings Scheduled	Total Hearings Conducted	30 Days Suspension	Warning Notices	Cases Dismissed
AIRS	38	17	1	6	2
CITS	38	17	1	2	2
Total	76	34	2	8	4

2013	**Cases Postponed**	No Action Taken	Suspended Indefinitely	**Total Suspensions**
AIRS	21	8	0	1
CITS	21	0	12	13
Total	42	8	12	14

One AIRS was suspended for violating the conditions of the inspection permit:

- One was suspended for 30 days
- Six were issued a warning notice for violating the conditions of the inspection permit
- Two cases were dismissed because of insufficient evidence
- Twenty-one cases were postponed
- Eight cases no action was taken since the permit for the AIRS was voluntarily terminated

Thirteen CITs were suspended for conducting improper inspections:

- One was suspended for 30 days
- Two were issued a warning notice for violating the conditions of the inspection permit
- Two cases were dismissed because of insufficient evidence
- Twenty-one cases were postponed
- Twelve were suspended indefinitely

The schedule of penalties calls for a first violation penalty of a minimum of ten day suspension, a second violation requires a minimum of thirty days; the third and subsequent violations are subject to a suspension of authorization to inspect motor vehicles for a minimum of six months for each separate violation. In addition to the suspension penalties the Administrator may, at his discretion, impose a fine of up to $1,000. Reinstatement may be requested by the station owner at the end of a suspension period. The reinstatement shall be at the discretion of the hearing board or the Administrator. (see Appendix "K" DMV Safety and Emissions Control Regulation No. 1, section 1.15)

The results for the covert vehicle audits will be included in the 2014 Annual EPA report. The covert vehicle audits were conducted in November and December and the hearings for these audits were not scheduled during 2013.

8. Enforcement

During January 2013, the Division of the Law Enforcement/Criminal Investigation section of DEM contacted DEM and DMV to inform our agencies that the Rhode Island Attorney General was forming an Environmental Crimes Task Force, and is exploring the possibility of targeting the frequent offenders from the Authorized Inspection Repair Stations (AIRS) that have conducted fraudulent inspections. At the end of December 2013, there have not been any cases heard.

During October 2013, DEM, DMV and Systech discussed implementing two additional informal enforcement programs in January 2014, as a result of the covert audits in order to check the AIRS inspection practices. The first program will be a Formal Counseling Program and the second program will be a Sticker Removal Program. Once these programs are implemented during 2014, it will

reduce the time period between the formal hearings conducted by the Safety & Emission Control Board and final corrective actions.

The DMV will conduct both of these informal enforcement programs at the Division of Motor Vehicles Safety and Emission Control Office in Providence, RI. The DMV will notify the responsible AIRS and inspector with proper documentation for the fraudulent vehicle inspection performed, and will arrange a meeting for the AIRS and inspector to meet at the DMV Safety and Emission Control Office with the Acting Chief, where the technician can explain why an improper vehicle inspection was performed. The Acting Chief can then explain to the technician the rules and regulations pertaining to the violation so corrective action will be taken and will be corrected in the future.

If an inspection sticker has been issued by an inspector who has fraudulently inspected a vehicle, the DMV will remove the inspection sticker from the windshield of the vehicle and issue a "five-day notice and demand tag" that requires an inspection to be completed within five days. If the vehicle is not inspected properly within five days the vehicle registration will be suspended.

The results of the informal meeting will be filed in the AIRS and technicians file. If this situation happens again, they will be called in for a formal hearing with the Safety and Control Hearing Board.

Vehicles Subject to Inspection

As of December 2013, approximately 671,169 light duty vehicles (MY 1989-2011) were registered with DMV. The actual number of vehicles requiring inspection during 2013 can be estimated from the total number of vehicles registered. Additionally, because the requirement for inspection exempts vehicles 25 years old and older and vehicles two years old or newer, the number of vehicles subject to inspection in a given year is also impacted. Reviewing the registration data as of December 2013, and assuming a 50-50 biennial split, as many as 335,585 vehicles may have been required to be inspected during 2013. Based on data from the Program Manager, (MY 1989-2011) there were 322,993 vehicles inspected. This leaves a balance of approximately 12,592 (3.8%) vehicles possibly not in compliance.

Table XXX: Vehicles Subject to Inspection

Vehicles Subject to Inspection	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Non-Exempt Vehicles Registered with DMV (MY 1989-2011)	808,468	800,992	777,420	771,529	675,250	671,169
As many vehicles as:	354,432	357,705	347,050	340,898	337,625	335,585
Vehicles Inspected (MY 1989-2011)	330,580	335,750	344,505	337,659	330,012	322,993
Vehicles possibly not in compliance	23,852	21,955	2,545	3,239	7,613	12,592
Total Percentage	6.7%	6.1%	.74%	.95%	2.3%	3.8%

As mentioned in the above paragraph these totals are estimated based on the data provided to DEM from DMV. The data submitted to DEM for the number of non-exempt vehicles (1989-2011) has been recorded only through to December 4, 2013. Due to the limitations in DMV's existing data management system, it is not possible to know how many vehicles were registered**.** (see Appendix "L" Vehicles Subject to Inspection)

Parking Lot Survey

During September 2013, the DMV performed three parking lot surveys at the Community College of Rhode Island (CCRI) located at three different regions in the state. There were 660 vehicles with Rhode Island registrations surveyed to find the proportion of valid to invalid or missing stickers. There were 76 vehicles that were not in compliance.

Table XXXI: 2013 Parking Lot Survey Results

Year	2007	2007	2009	2009	2012	2012	2013	2013
Inspection Status	**Number of Vehicles**	**Percentage of Vehicles**	**Number of Vehicles**	**Percentage of Vehicles**	**Number of Vehicles**	**Percentage of Vehicles**	**Number of Vehicles**	**Percentage of Vehicles**
Vehicles with Valid Stickers	778	75.7%	652	81.9%	648	83.94%	660	81.06%
Vehicles with Expired Stickers	**63**	**6.1%**	**32**	**4.0%**	**32**	**4.15%**	**61**	**9.24%**
Counterfeit Stickers			**4**	**.50%**	**0**	**0**	**0**	**0**
Vehicles with no Sticker; clearly older than two model years old	19	1.8%	16	2.0%	16	2.07%	**15**	2.27%
Non Compliance	**82**	**7.9%**	**52**	**6.5%**	**48**	**6.2%**	**76**	**11.5%**
Vehicles with no Sticker; likely less than two years old	168	16.3%	92	11.6%	76	9.84%	49	7.42%

As the above table indicates, the non compliance rate has continued to decrease since 2007 thru 2012, except during 2013, the non-compliance rate increased to 11.5%.

The reason why the non-compliant rate increased during 2013, may be due to the fact the survey was conducted at the Community College of Rhode Island where the majority of vehicles surveyed were owned by college students, who may be inattentive in obtaining an emissions inspection when due.

During 2014, the DMV will perform the parking lot survey at a different location.

Preventing False Registration by Motorist

The I/M program in Rhode Island covers the entire state, so it is not possible for a vehicle owner to falsely register any vehicle out of the program area. Inspectors are instructed to verify that the fuel type and the gross vehicle weight (GVWR) indicated on the vehicle's registration form are accurate. The inspector will check the information on the label on the inside of the door to see if the correct information can be obtained.

Motorist Enforcement Measures

Sticker Based Enforcement

The inspection sticker has continued throughout the years to be the primary inspection enforcement tool. This highly visible means of recognition allows police agencies to quickly determine a vehicle's compliance status. DMV continues to provide information to the municipal police and the State Police regarding the features of the inspection stickers. Any law enforcement officer or an agent of DMV may demand to inspect any compliance device (sticker) or compliance document (inspection report or waiver) issued through the Rhode Island I/M Program. (see Appendix "K" DMV Safety and Emissions Control Regulation No. 1, section 1.4)

The following tables indicate the reconciliation of the stickers during 2013.

Table XXXII: 2013 Sticker Reconciliation Summary

Printed Stickers

Stickers Received for 2013 Program	400,000
Stickers Distributed to AIRS	-384,300
Un-distributed Roll (Stolen)	-300
Balance	15,400
Stickers not Distributed (Destroyed)	-15,400
Balance	0

Distributed Stickers to AIRS

Stickers Distributed to AIRS	384,300
Stickers Placed on Vehicles	-334,579
Voided Stickers	49,721
Stickers Collected	-46,934
Balance	2,787
Unused Stickers Returned to Systech	-2,700
Balance	87
Stickers Stolen, or Lost (Police Report Filed	-79
Sticker Balance (Un-reconciled)	8

The above tables indicates that during 2013, Systech International, the Program Manager received 400,000 stickers for the I/M Program. There were 384,000 stickers distributed to the AIRS. During April 2013, one roll (300) of these blank stickers was stolen from the contractor's vehicle. A police report was filed over this incident. Out of the 400,000 stickers received, there were 15,400 un-distributed stickers were destroyed.

The remaining 384,000 stickers were distributed to the AIRS. Out of the 384,300 stickers distributed to the AIRS, there were 334,579 stickers that were placed on

vehicles. There were 49,721 voided stickers. Out of the 49,721 voided stickers, there were 46,934 stickers that were collected by the Program Manager. This leaves a balance of 2,787 stickers. There were 2,700 stickers that were returned to Systech. This leaves a balance of 87 stickers. There were 79 stickers that were lost or stolen, resulting in mandatory police reports being filed.

This leaves a balance of 8 stickers that are unaccounted for. The Program Manager is in the process of trying to reconcile these remaining stickers. (see Appendix "M" Sticker Summary)

Roadside Checks Conducted by DMV and Local Police

During June thru September 2013, there were 4 roadside checks conducted throughout the state by the DMV and the Local Police, to enforce motorist compliance with the I/M Program. The DMV and Local Police issued a total of 241 "five-day notice and demand tags" to vehicles found to be out of compliance. There were 106 vehicles found to have invalid inspection stickers and there were a total of 126 safety violations found.

Also, during these roadside checks, there were a total of 4 vehicles found to be less than two years old with more than 24,000 miles on the odometer.

State Police and Municipal Police Enforcement

The State Police and municipal police continue to enforce motorists' compliance by pulling vehicles over if an inspection sticker is not valid. During 2013 approximately 6,982 "five-day notice and demand tags" were issued by the State Police. The notice and demand tags require an inspection be completed within five days.

During 2013, there were a total of 7,223 "five-day notice and demand tags" issued by the State Police, municipal police and DMV.

Approximately 84% or 6,067 vehicles complied with the "five-day notice and demand tags". There were 1,156 vehicle owners who failed to reply to the "five-day notice and demand tags". Of the 1,156 that were suspended 64% eventually complied. (see Appendix "N" Notice and Demand Form)

Registration Denial

DMV receives data from the Program Manager when vehicles are inspected. Based on DMV records from previous inspections, a notice of action (notice) is mailed out to vehicle owners who have failed to obtain a vehicle inspection when due. The notice indicates the vehicle owner has 30 days to obtain an inspection before the vehicle's registration is suspended. At the end of 30 days, if the vehicle has not passed an inspection based on the daily data submission from the Program Manager, the registration is suspended in the DMV registration

database. Due to limitations in DMV's existing data management system, it is not possible to determine the day to day status of these notices. Additionally, it is not possible to know how many notices were mailed each day during 2013; however, we do know that approximately 46,042 notices were outstanding as of the end of December 2013. (see Appendix "O" Notice of Action Form)

When the new state wide computer system is implemented, the registration data will allow us to track the actual number of notices mailed each day and to track the compliance status of these notices.

Enforcement Against, AIRS, Program Manager and DMV Personnel

Program Manager

There were no enforcement actions taken against the Program Manager during 2013.

Inspection Stations and Inspectors

Authorized Inspection and Repair Station (AIRS)

During 2013, there was one AIRS suspended for violating the conditions of the inspection permit. (see Table XXIX)

During 2013, DMV held a total of seventeen hearings during the year for the AIRS related to the OBD fraud digital auditing. There were a total of thirty-eight hearings scheduled, however, twenty-one cases were postponed. The AIRS were given an opportunity to review all complaints in their files and to explain why they performed improper inspections. (see Table XXIX)

Inspectors

During 2013, a total of thirteen CITs were suspended for violating the conditions of the inspection permit.

During 2013, DMV held a total of seventeen hearings during the year for the CITs related to the OBD fraud digital auditing. There were a total of thirty-eight hearings scheduled, however, twenty-one cases were postponed. The CITs were given an opportunity to review all complaints in their files and to explain why they performed improper inspections. (see Table XXIX)

The Rhode Island Motor Vehicle Safety and Emissions Control Regulation No. 1, section 1.14. allows the withdrawal of the designation as a CIRT or CIT by the State for good cause at any time.

DMV Auditors and Other Personnel

DMV auditors must adhere to specific procedures and follow a checklist when conducting an audit. The work of DMV auditors is scrutinized by their immediate supervisor on a daily basis.

9. Public Outreach

The "RI Emissions Safety Testing" newsletters were distributed in August and December 2013, to the AIRS throughout the state. The newsletters continue to be an excellent source of information for technicians from DMV and DEM. The newsletters distributed covered a variety of topics including: enforcement news from Massachusetts, Georgia and North Carolina, information regarding the inspector re-certification testing, tips for technicians from the technician's bench, an EPA annual report summary that included initial test results and the different types of waivers available to motorists who have failed the emissions tests and retests, information regarding reciprocity testing between states and testing out-of-state vehicles and an introduction of the new I/M Program Manager. (see Appendix "P" RI Emissions Safety Testing Newsletters)

The network computer system and station computer displays, continue to be used to provide program updates for CIRT exam sessions, re-certification training seminars and technical bulletins to the AIRS. The program's website at www.riinspection.org was used during this reporting year to outreach to the general public.

Appendix "A"

Remote OBD Testing Pilot Program Results

Appendix "B"

SysTech Reporting Services/RI EPA Reports Data

Appendix "C"

Detailed Test Volume by Test Type, Model Year and Vehicle Type for:

- **Initial Vehicle Tests**
- **Failures of Initial Test and Percentages of Total Failures**
- **First Retests by Failure Rate**
- **Subsequent Retest by Failure Rate**
- **OBD (Non-Diesel) Comparison Chart**

Appendix "D"

Initial Test Volume by AIRS, Model Year and Vehicle Type (CD Attached)

Appendix "E"

Detailed Initial OBD Mil Codes by Model Year and Vehicle Type

- **MIL commanded on and no codes are stored**
- **Mil is not commanded on and codes are stored**
- **Mil commanded on and codes are stored**
- **Mil is not commanded on and no codes are stored**

Appendix "F"

Detailed Fuel Cap Test Results by Model Year and Vehicle Type

- **Initial Vehicle Tests**
- **Failures of Initial Test and Percentages of Total Failures**

Appendix "G"

Vehicles with No Known Final Outcome and Summary for:

- **Detailed Initial Failure Results by Model Year, Test Type and Vehicle Type**
- **Detailed Retest Pass Results by Model Year, Test Type and Vehicle Type**
- **Detailed Retest Subsequent Pass Results by Model Year, Test Type and Vehicle Type**

Vehicle Identification Number (VIN) List of Vehicles with No Known Outcome and with 3 Months Lookup Table for:

- **(VIN) Number of Vehicles Tested**
- **Last Test Date**
- **Vehicle Type**
- **Model Year**
- **Type of Fuel**
- **Last Test Type**
- **Last Test Count**
- **Later Pass Date**

VIN List of OBD Vehicles with No Known Outcome

- **(VIN) Number of Vehicles Tested**
- **Last Test Date**
- **Vehicle Type**
- **Model Year**
- **Type of Fuel**
- **Last Test Type**
- **Last Test Count**

Appendix "H"

Initially Failed Vehicles Receiving a Waiver by Make and Model Year

Appendix "I"

Average Emission Reductions (Vehicles Subjected to Transient Testing) after Repairs by Model Year and Vehicle Type

Appendix "J"

Audit Types

- **Covert Vehicle Audits**
- **Covert Visual Audits**
- **Overt Station Visual Audits**
- **DMV Quality Assurance Performance Audits**
- **Gas Bench Audits**
- **Vehicle Mass Analysis System (VMAS) Audits Detailed**
- **Digital Auditing**

Appendix "K"

Rhode Island Motor Vehicle Inspection/Maintenance Program Regulation
Division of Motor Vehicles Safety and Emissions Control Regulation No. 1

Appendix "L"

Vehicles Subject to Inspection

Appendix "M"

Sticker Reconciliation Summary

Appendix "N"

Notice and Demand Form

Appendix "O"

Registration Denial
Notice of Action Form

Appendix "P"

RI Emissions Safety Testing Newsletters